

REMARKS

Claims 1-8, 11, 14-15 and 17-28 are pending. Claim 32 is added. Claim 32 is supported by original claims 1, 13 and 17. Claim 19 is amended to employ the article "the" to reference "fermentation broth", as the term "fermentation broth" is used in base claim 1, and to amend the claim consistent with claim 1.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Rejection of Claims 1-8, 11, 14-15 and 17-28 under 35 U.S.C. 103

The rejection of claims 1-8, 11, 14-15 and 17-28 under 35 U.S.C. 103 as allegedly obvious over Liddell et al. in view Neubeck is maintained. The Examiner acknowledges that Neubeck teaches that purified or concentrated enzymes may be spray dried and that there is no suggestion to spray dry a fermentation broth "after culture of a microorganism." The Examiner alleges that the claims are not limited in this fashion, as the scope of the recitation "fermentation broth starting material comprising an enzyme and a biomass" is alleged to encompass a biomass and a concentrated enzyme. The Examiner specifically directs Applicants to page 12 of the specification where it states that the starting material is a fermentation broth or a fermentation broth which has been treated "in one or more processing steps, such as, fermentation filtrate or an enzyme concentrate."

This rejection is respectfully traversed. Claim 1 recites spraying drying "a fermentation broth starting material comprising an enzyme and a biomass to obtain a solid particle comprising an enzyme and a biomass. Neither Neubeck nor Liddell et al., individually or collectively, teach or suggest the claimed invention.

Neubeck does not disclose or even suggest spraying drying "a fermentation broth starting material comprising an enzyme and a biomass to obtain a solid particle comprising an enzyme and a biomass. Indeed, the process of Neubeck involves spray drying a composition that does not contain biomass, as Neubeck discloses only spray drying a purified enzyme or enzyme concentrate to obtain a particle containing such concentrated or purified enzyme composition.

In this regard, the implication that term "fermentation broth comprising an enzyme and a biomass" is synonymous (based on further processing) with the term "enzyme concentrate" is clearly incorrect. As defined in the specification, and is well-known in the art, an enzyme

concentrate is a highly purified enzyme composition that has been treated to remove biomass. The specification, consistent with their art-recognized meanings, defines the term "fermentation filtrate" as "a fermentation broth from which microbial cells and cell debris has been removed" and the term "enzyme concentrate" as "a fermentation filtrate which has been processed to increase the concentration of enzyme." See the specification on page 3, lines 10 to 18. The term "biomass" is defined in the specification as a "synonym for microbial cells, cell debris and combination thereof." See the specification at page 3, lines 6-9.

Thus, although the specification discloses that a fermentation broth may further be processed to remove biomass to produce an enzyme concentrate, the claims specifically recite "spray drying a fermentation broth comprising an enzyme and a biomass to produce a solid particle comprising an enzyme and a biomass." Thus, the Examiner's interpretation of the claims fails to give appropriate consideration to the claim language itself which specifically recites a process that involves spray drying a composition comprising enzyme and biomass so as to produce a solid particle comprising an enzyme and a biomass.

The combined teachings of Liddel et al. and Neubeck also do not suggest the claimed invention. As discussed in the prior response, and as acknowledged by the Examiner, Liddel et al. also does not disclose a process of preparing an enzyme containing particle by spray drying a fermentation broth starting material comprising an enzyme and a biomass to produce a solid particle comprising an enzyme and a biomass. Rather, Liddel et al. only discloses spray drying whole microorganisms for the purpose of preserving enzymes contained within the cells.

As best, Liddell et al. in view of Neubeck only suggests to the artisan to substitute a concentrated enzyme of Neubeck for whole microorganisms of Liddell et al. or the whole microorganism of Liddell et al. for the concentrated enzyme of Neubeck. That is, there is no motivation based on Neubeck et al. to substitute the whole microorganism of Liddel et al. with a fermentation broth starting material comprising an enzyme and a biomass, and there is no motivation based on Liddel et al. to substitute the concentrated enzyme of Neubeck for a fermentation broth starting material comprising an enzyme and a biomass. Thus, the cited references do not in combination teach or suggest "spray drying a fermentation broth starting material comprising an enzyme and a biomass, to obtain a solid particle comprising an enzyme and a biomass."

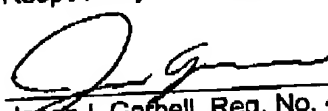
For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

II. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

Date: June 30, 2003



Jason I. Garbell, Reg. No. 44,116
Novozymes North America, Inc.
500 Fifth Avenue, Suite 1600
New York, NY 10110
(212)840-0097